



Algebra 2

Topic 3 // Elimination A

N: **Key**

D:

P: 1 2 3 4 5 6

Standards: 2.0

Holt: 3-2 Solving Linear Systems p. 190

$$\begin{array}{r} 1.) \quad 2x + 5y = 17 \\ \quad 6x - 5y = -9 \\ \hline 8x = 8 \\ \hline x = 1 \end{array}$$

$$\begin{array}{r} 2(1) + 5y = 17 \\ 2 + 5y = 17 \\ -2 \quad -2 \\ \hline 5y = 15 \\ \hline y = 3 \end{array} \quad \boxed{(1, 3)}$$

$$\begin{array}{r} 2.) \quad 7x + 2y = 10 \\ \quad -7x + y = -16 \\ \hline 3y = -6 \\ \hline y = -2 \end{array}$$

$$\begin{array}{r} 7x + 2(-2) = 10 \\ 7x - 4 = 10 \\ +4 \quad +4 \\ \hline 7x = 14 \\ \hline x = 2 \end{array} \quad \boxed{(2, -2)}$$

$$\begin{array}{r} 3.) \quad 2x - 3y = 61 \\ \quad 6x + 3y = -21 \\ \hline 8x = 40 \\ \hline x = 5 \end{array}$$

$$\begin{array}{r} 2(5) - 3y = 61 \\ 10 - 3y = 61 \\ -10 \quad -10 \\ \hline -3y = 51 \\ \hline y = -17 \end{array} \quad \boxed{(5, -17)}$$

$$\begin{array}{r} 4.) \quad 8x - 11y = 20 \\ \quad 5x + 7y = -59 \\ \hline 3x = -39 \\ \hline x = -3 \end{array}$$

$$\begin{array}{r} 8(-3) - 11y = 20 \\ -24 - 11y = 20 \\ +24 \quad +24 \\ \hline -11y = 44 \\ \hline y = -4 \end{array} \quad \boxed{(-3, -4)}$$

$$\begin{array}{r} 5.) \quad 2x + 9y = -9 \\ \quad -4x - 9y = 27 \\ \hline 2x = 18 \\ \hline x = 9 \end{array}$$

$$\begin{array}{r} 2(9) + 9y = -9 \\ 18 + 9y = -9 \\ -18 \quad -18 \\ \hline 9y = -27 \\ \hline y = -3 \end{array} \quad \boxed{(9, -3)}$$

$$\begin{array}{r} 6.) \quad 10x + 3y = 20 \\ \quad -10x + 5y = 60 \\ \hline 8y = 80 \\ \hline y = 10 \end{array}$$

$$\begin{array}{r} 10x + 3(10) = 20 \\ 10x + 30 = 20 \\ -30 \quad -30 \\ \hline 10x = -10 \\ \hline x = -1 \end{array} \quad \boxed{(-1, 10)}$$

$$\begin{array}{r} 7.) \quad 12x - 40y = -100 \\ \quad 4x + 40y = 20 \\ \hline 16x = -80 \\ \hline x = -5 \end{array}$$

$$\begin{array}{r} 4(-5) + 40y = 20 \\ -20 + 40y = 20 \\ +20 \quad +20 \\ \hline 40y = 40 \\ \hline y = 1 \end{array} \quad \boxed{(-5, 1)}$$

$$\begin{array}{r} 8.) \quad 7x + 15y = 32 \\ \quad 5x - 15y = 100 \\ \hline 2x = 132 \\ \hline x = 66 \end{array}$$

$$\begin{array}{r} 5(66) - 15y = 100 \\ 330 - 15y = 100 \\ -330 \quad -330 \\ \hline -15y = -230 \\ \hline y = 15.33 \end{array} \quad \boxed{(66, 15.33)}$$

$$\begin{array}{r} 9.) \quad 10x + 25y = -110 \\ \quad -10x - 3y = 22 \\ \hline 22y = -88 \\ \hline y = -4 \end{array}$$

$$\begin{array}{r} 10x + 25(-4) = -110 \\ 10x - 100 = -110 \\ +100 \quad +100 \\ \hline 10x = -10 \\ \hline x = -1 \end{array} \quad \boxed{(-1, -4)}$$

$$\begin{array}{r} 10.) \quad 5x - 6y = -32 \\ \quad 3x + 6y = 48 \\ \hline 8x = 16 \\ \hline x = 2 \end{array}$$

$$\begin{array}{r} 5(2) - 6y = -32 \\ 10 - 6y = -32 \\ -10 \quad -10 \\ \hline -6y = -42 \\ \hline y = 7 \end{array} \quad \boxed{(2, 7)}$$